Office Action Summary	Application No.	Applicant(s)	
	09/518,117	HSU ET AL.	
	Examiner	Art Unit	
	Negussie Worku	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 March 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. Applicant's arguments with respect to claims 1 and 3, have been considered but are moot in view of the new ground(s) of rejection.

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed the following title is suggested: "increasing scanning resolution by controlling driving system"

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-5, are rejected under 35 U.S.C. 103(a) as being unpatentable over Koshiyouji et al. (U.S.P 5,150,227), in view of Kmiyama (U.S.P 5,381,244).

With respect to claim 1, Koshiyouji discloses a method of increasing scanning resolution of a scanner , see (col.4, line 47-51) through controlling its driving system, (controller 15 of fig 1, controlling its driving system step-motor 13 of fig 1, see col.4, lines 15-16) comprising the step

of: providing shift gate clock pulses, (step-motor shift pulse from step-motor provide pules to shift CCD line sensor, see col.4, lines 64-65), to a CCD such that one shift gate clock pulse period corresponding to an exposure cycle for the CCD, (21 of fig 2), see (col.6, lines 64-68); and providing motor pulses to a motor, see col.5, lines 50-54).

Koshiyouji does not disclose one motor pulse period corresponds to a plurality of exposure cycles for the charge-coupled-device.

However, Kamiyama discloses one motor pulse period (motor pulse generated by pulse generate 11 of fig 3A) corresponds to a plurality of exposure cycles (as shown 4B " reading data, from D1-D6, as exposure cycles) for the charge-coupled-device (image sensor 1 of fig 1).

Since K Koshiyouji and Kamiyama are directed toward at least having image reading or pickup apparatus, the purpose of using a motor pulse period corresponding to a plurality of exposure cycles for charge couple device, would have been recognized by Koshiyoui as specifically set forth by Kamiyama.

It would have been obvious to replace the control unit 25 of Koshiyoui et al., with the motor controller 4 of fig 3A, which includes main controller 7 of fig 3A, Kamiayam for the purpose of using one motor pluses period corresponds to a plurality of exposure cycles, whereby the image reading system using an interruption of a pulse train to adjust a scanning period, as clearly set forth by Kamiyama.

With respect to claim 2, Koshiyouji et al. discloses a method (as shown in fig 3) wherein the motor includes a stepper motor, (13 of fig 1, is a step-motor), see (col.4, lines 7-8).

With respect to claim 3, Koshiyouji discloses a method (as shown in fig 1 and 2) of increasing scanning resolution of a scanner see (col.4, line 47-51), through controlling its driving system, (controller 15 of fig 1, controlling its driving system step-motor 13 of fig 1, see col.4, lines 15-16), comprising: the step of providing motor pulse signals to a CCD device, (shift pulse provided from step-motor provide to shift CCD line sensor, see col.4, lines 64-65); and adjusting (CPU 27 of fig 3, adjust the timing, col.9, lines 5-12), a timing relationship, see (col.9, lines 30-35) between the motor pulse (motor pulse signals 501 and 504 of fig 5).

Koshiyouji does not disclose one motor pulse period corresponds to a plurality of exposure cycles for the charge-coupled-device.

However, Kamiyama discloses one motor pulse period (motor pulse generated by pulse generate 11 of fig 3A) corresponds to a plurality of exposure cycles (as shown 4B " reading data, from D1-D6, as exposure cycles) for the charge-coupled-device (image sensor 1 of fig 1).

Since Koshiyouji and Kamiyama are directed toward at least having image reading or pickup apparatus, the purpose of using a motor pulse period corresponding to a plurality of exposure cycles for charge couple device, would have been recognized by Koshiyoui as specifically set forth by Kamiyama.

It would have been obvious to replace the control unit 25 of Koshiyoui et al., with the motor controller 4 of fig 3A, which includes main controller 7 of fig 3A, Kamiayam for the purpose of using one motor pluses period corresponds to a plurality of exposure cycles, whereby the image reading system using an interruption of a pulse train to adjust a scanning period, as clearly set forth by Kamiyama.

With respect to claim 4, Koshiyouji discloses wherein one shift gate clock cycle corresponds to an exposure cycle (light from illuminating device 19 of fig 1) for the CCD, see (col.6, lines 64-65).

With respect to claim 5, Koshiyouji et al. discloses a method (as shown in fig 3) wherein the motor includes a stepper motor, (13 of fig 1, is a step-motor), see (col.4, lines

Response to Arguments

5. Applicant's arguments field March 3, 2003 have been respectfully considered but are moot in view of the new ground(s) of rejection. This office action is final.

6. Any inquiry concerning this communication or earlier communication from Examiner should be directed to Negussie Worku whose telephone number is (703) 305 5441.

The Examiner can normally be reached on M-F, 9 am - 6 pm if attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, David Moore, can be reached on (703) 308-7452.

The fax phone number for the organization where this application or proceeding is assigned is (703) 306-5406, and any inquiry of general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

06/05/03

JEROME GRANT II
PRIMARY EXAMINER